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EXAMINER

RAMPURIA, SHARAD K

ART UNIT PAPER NUMBER

2617

DATE MAILED: 05/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/815,717 | <b>Applicant(s)</b><br>PERIYALWAR ET AL. |  |
|                              | <b>Examiner</b><br>Sharad Rampuria   | <b>Art Unit</b><br>2617                  |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

I. The Art Unit location of this application in the USPTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to Art Unit 2617.

The current office-action is in response to the amendments/remarks filed on 02/21/2006.

Accordingly, Claims 1-34 are pending for further examination as follows:

### ***Claim Rejections - 35 USC § 102***

II. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

III. Claims 1-8, 10-17, 19-20, 24-28, 30-32 & 34 are rejected under 35 U.S.C. 102 (e) as being anticipated by Karr et al. [US 20040102215].

As per claim 1, Karr teaches:

A mobile station adapted to participate in wireless PMP (point to multi-point) communications using a cellular spectral resource, the mobile station being further adapted to

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participate in wireless P2P (peer-to-peer) communications using said cellular spectral resource. (e.g. Advantageously, the mobile device is not limited to the use of either a wide area transmission system (such as a cellular network), or a local area transmission system (such as an infrared communication link), but, rather, reaps the benefits of both. A user may take advantage of the local area transmission system to receive information from the user's personal computer or another mobile device. The user may also take advantage of the wide area transmission system to receive information of a more general interest, such as may be transmitted over a broadcast medium, such as stock quotes and the like; Pg.1; 0004, Abstract, Pg.2; 0018-0019, Pg.7; 0069, and Claim 1).

As per claim 2, Karr teaches:

A mobile station according to claim 1 wherein said cellular spectral resource comprises a downlink PMP band, and an uplink PMP band, wherein the mobile station is adapted to participate in wireless PMP (point to multi-point) communications using the downlink PMP band for receiving and using the uplink PMP band for transmitting, the mobile station being further adapted to participate in wireless P2P (peer-to-peer) communications using the PMP uplink band for both transmitting and receiving in a TDD (time division duplex) manner. (e.g. ; As shown in FIG. 7, the segments in the broadcast stream are distributed across the frame, for fading protection, via time diversity. As shown in FIG. 8, each segment contains 64 data bits (128 bits in an alternate embodiment), along with synchronization information for the DSP process. These segments are reassembled by the receiver hardware, and presented to the network level as packets, shortly after the last segment is received. Segments are transparent at the logical level,

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and are not individually retrievable. Normally, the 16 segments comprising a packet (8 segments in an alternate embodiment) are distributed across the entire frame, with the completed packet not being available until the last segment (near the end of the frame) is received. In the case of "fast packets", the 8 or 16 segments are all located within a quarter of the frame (sometimes called a "sub-frame"); Pg.6; 0066, Pg.7; 0071, Pg.1; 0005).

As per claim 3, Karr teaches:

A mobile station according to claim 2 comprising: a transmitter for transmitting PMP communications and P2P communications on the uplink PMP band; a first receiver for receiving PMP communications on the downlink PMP band; a second receiver for receiving P2P communications on the uplink PMP band. (Pg.7; 0073)

As per claim 4, Karr teaches:

A mobile station according to claim 3 adapted to listen to PMP communications from the network on the downlink PMP band with the first receiver for maintenance purposes while transmitting P2P communications and while receiving P2P communications with the second receiver. (Pg.2; 0019)

As per claim 5, Karr teaches:

A mobile station according to claim 2 comprising: a transmitter for transmitting PMP communications and P2P communications on the uplink PMP band; a receiver for receiving PMP communications on the downlink PMP band, and for receiving P2P communications on the

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uplink PMP band. (Pg.7; 0074)

As per claim 6, Karr teaches:

A mobile station according to claim 5 adapted to listen to PMP communications from the network on the downlink PMP band for maintenance purposes only while transmitting P2P communications. (Pg.7; 0071, Pg.6; 0066)

As per claim 7, Karr teaches:

A mobile station according to claim 5 wherein said receiver is a software defined receiver. (Pg.6; 0060)

As per claim 8, Karr teaches:

A mobile station according to claim 1 further adapted to maintain linked state transitions between states for PMP communications and at least one state for P2P communications. (Pg.7; 0073)

As per claim 10, Karr teaches:

A mobile station according to claim 1 adapted to periodically interrupt P2P communications to perform maintenance for PMP communications. (Pg.7; 0071)

As per claim 11, Karr teaches:

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A mobile station according to claim 1 adapted to transition into P2P communications independent of network control. (Pg.7; 0075-0076)

As per claim 12, Karr teaches:

A mobile station according to claim 11 adapted to transition into P2P communications independent of network control by directly coordinating a setup of a P2P communications link with another mobile station. (Pg.7; 0075-0076)

As per claim 13, Karr teaches:

A mobile station according to claim 12 adapted to coordinate the setup of a P2P communications link with another mobile station by: in response to a user selection, transmitting an P2P request to the another mobile station on a P2P access channel; receiving an acknowledgement from the another mobile station. (Pg.7; 0075-0076)

As per claim 14, Karr teaches:

A mobile station according to claim 1 adapted to transmit a frame format which includes a time slot for PMP communications and a time slot for P2P communications. (Pg.6; 0066)

As per claim 15, Karr teaches:

A mobile station according to claim 1 adapted to transition into P2P communications under network control. (Pg.7; 0073-0074)

As per claim 16, Karr teaches:

A mobile station according to claim 1 adapted to transition into P2P communications under network control transparent to a user of the mobile station. (Pg.7; 0073-0074)

As per claim 17, Karr teaches:

A mobile station according to claim 16 adapted to: receive a direction from the network to enter P2P communications with another mobile station; in response to said direction, coordinate set up of P2P communications with the another mobile station; while in P2P communications, listen to PMP transmissions from the network for maintenance purposes. (Pg.7; 0073-0074)

As per claim 19, Karr teaches:

A mobile station according to claim 1 further adapted to perform signalling to set up P2P communications with another mobile station using an access channel having a defined long code mask announced by a network controlling said spectral resource. (Pg.6; 0066)

As per claim 20, Karr teaches:

A mobile station according to claim 19 adapted to use a first long code mask for P2P transmissions to another mobile station, and a second long code mask for PMP communications to the network. (Pg.6; 0066)

As per claim 24, Karr teaches:



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A mobile station according to claim 1 further comprising at least one steerable antenna which is steered for use in P2P communication or PMP communications. (Pg.3; 0032)

As per claim 25, Karr teaches:

At least one network element adapted to participate in PMP communications with a plurality of mobile stations, (Abstract, Pg.1; 0004, Pg.2; 0018-0019, Pg.7; 0069, and Claim 1) the at least one network element being adapted to:

Determine when a pair of mobile stations which are communicating with each other are sufficiently close together for P2P communications; direct the pair of mobile stations to start communicating with each other using P2P communications. (e.g. two different implementations of the localcaster may be realized. In one, the localcast transmitter provides a local, one-way, *data broadcast to one or more nearby mobile devices*. This broadcast can either replicate one or two on-air channels; provide one or two local-content channels, or a combination of the two. When operating in these modes, the data format and speed is identical to that on the on-air channels. *The speed may be configured to be higher in a special application mode, depending on the desired range*; Pg.5; 0052, Pg.7; 0073-0074)

As per claim 26, Karr teaches:

A cellular network comprising the at least one network element of claim 25. (Pg.2; 0019)

As per claim 27, Karr teaches:

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A cellular network according to claim 26 wherein the at least one network element comprises a base station transceiver which determines a pair of mobile stations which are communicating with each other are sufficiently close together for P2P communications due to their being located in a coverage area serviced by the base station transceiver. (Pg.5; 0052, Pg.7; 0074)

As per claim 28, Karr teaches:

A cellular network according to claim 26 wherein the at least one network element comprises a base station controller and a plurality of base stations which determine a pair of mobile stations which are communicating with each other are sufficiently close together for P2P communications due to their being located in a coverage area of base stations serviced by the base station controller. (Pg.5; 0052, Pg.7; 0074)

As per claim 30, Karr teaches:

A method comprising: a mobile station participating in wireless PMP (point to multi-point) communications using a cellular spectral resource; the mobile station participating in wireless P2P (peer-to-peer) communications using said cellular spectral resource. (e.g. Advantageously, the mobile device is not limited to the use of either a wide area transmission system (such as a cellular network), or a local area transmission system (such as an infrared communication link), but, rather, reaps the benefits of both. A user may take advantage of the local area transmission system to receive information from the user's personal computer or another mobile device. The user may also take advantage of the wide area transmission system to receive information of a more general interest, such as may be transmitted over a broadcast medium, such as stock quotes

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and the like; Pg.1; 0004, Abstract, Pg.2; 0018-0019, Pg.7; 0069, and Claim 1).

As per claim 31, Karr teaches:

A method according to claim 30 wherein said cellular spectral resource comprises a downlink PMP band, and an uplink PMP band, wherein the mobile station participates in wireless PMP (point to multi-point) communications using the downlink PMP band for receiving and using the uplink PMP band for transmitting, the mobile station participates in wireless P2P (peer-to-peer) communications using the PMP uplink band for both transmitting and receiving in a TDD (time division duplex) manner. (e.g. ; As shown in FIG. 7, the segments in the broadcast stream are distributed across the frame, for fading protection, via time diversity. As shown in FIG. 8, each segment contains 64 data bits (128 bits in an alternate embodiment), along with synchronization information for the DSP process. These segments are reassembled by the receiver hardware, and presented to the network level as packets, shortly after the last segment is received. Segments are transparent at the logical level, and are not individually retrievable. Normally, the 16 segments comprising a packet (8 segments in an alternate embodiment) are distributed across the entire frame, with the completed packet not being available until the last segment (near the end of the frame) is received. In the case of "fast packets", the 8 or 16 segments are all located within a quarter of the frame (sometimes called a "sub-frame"); Pg.6; 0066, Pg.7; 0071, Pg.1; 0005).

As per claim 32, Karr teaches:

A method according to claim 31 further comprising: the mobile station listening to PMP communications on the downlink PMP band for maintenance purposes while transmitting P2P communications and while receiving P2P communications. (Pg.2; 0019)

As per claim 34, Karr teaches:

A method according to claim 31 further comprising: receiving a direction from the network to enter P2P communications with another mobile station; in response to said direction, co-ordinating set up of P2P communications with the another mobile station; while in P2P communications, listening to PMP transmissions for maintenance purposes. (Pg.7; 0071, Pg.6; 0066)

### ***Claim Rejections - 35 USC § 103***

IV. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

V. Claims 9 & 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karr in view of Raffel et al. [US 20030050090].

As per claim 9, Karr teaches all the particulars of the claim except the states for PMP communications comprise dormant, standby and active. However, Raffel teaches in an analogous art, that a mobile station according to claim 8 wherein the states for PMP communications comprise dormant, standby and active, and wherein P2P communications are permitted when the mobile station is in one of the PMP states dormant and standby. (Pg.8; 0065) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Karr including the states for PMP communications comprise dormant, standby and active in order to provide a multiple mode for a mobile device.

As per claim 33, Karr teaches all the particulars of the claim except maintaining linked state transitions between states for PMP communications and at least one state for P2P communications. However, Raffel teaches in an analogous art, that a method according to claim 31 further comprising: maintaining linked state transitions between states for PMP communications and at least one state for P2P communications. (Pg.8; 0065) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Karr including maintaining linked state transitions between states for PMP communications and at least one state for P2P communications in order to provide a multiple mode for a mobile device.

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VI. Claims 18, 21-23 & 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karr in view of Stanforth [US 6961575].

As per claims 18, 29 Karr teaches all the particulars of the claim except the CDMA-like communications. However, Stanforth teaches in an analogous art, that a mobile station according to claims 1, 25 respectively, wherein both P2P communications and PMP communications are CDMA-like communications. (Pg.8; 0065) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Karr including the CDMA-like communications in order to provide a particular technology for the peer-to-peer communication.

As per claims 21-22 Karr teaches all the particulars of the claim except at least one of rate control and power control for P2P communications in cooperation with the other mobile station. However, Stanforth teaches in an analogous art, that a mobile station according to claim 1 further adapted to perform at least one of rate control and power control for P2P communications in cooperation with the other mobile station. (Pg.8; 0065) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Karr including at least one of rate control and power control for P2P communications in cooperation with the other mobile station in order to provide a particular technology for the peer-to-peer communication.

As per claim 23 Karr teaches all the particulars of the claim except adapted to initiate P2P communications with a default power, and to request authorization to use additional power

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and/or channel resources from the network should P2P communications not be successful.

However, Stanforth teaches in an analogous art, that a mobile station according to claim 1 adapted to initiate P2P communications with a default power, and to request authorization to use additional power and/or channel resources from the network should P2P communications not be successful. (Pg.8; 0065) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Karr including adapted to initiate P2P communications with a default power, and to request authorization to use additional power and/or channel resources from the network should P2P communications not be successful in order to provide a particular technology for the peer-to-peer communication.

### ***Response to Arguments***

VII. ***Applicant's arguments filed on 02/21/2006 have been fully considered but they are not persuasive.***

In response to Applicant's argument that Karr doesn't teach, "a mobile station participating in wireless PMP (point to multi-point) communications using a cellular spectral resource; the mobile station participating in wireless P2P (peer-to-peer) communications using said cellular spectral resource." it is noted that Karr supports the assertion as, the mobile device is not limited to the use of either a wide area transmission system (such as a cellular network), or a local area transmission system (such as an infrared communication link), but, rather, reaps

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**the benefits of both.** (Please perceive Pg.1; 0004, Abstract, Pg.2; 0018-0019, Pg.7; 0069).

Hence, it is believed that *Karr still teaches the claimed limitations.*

Further, in rejoinder to Applicant's dispute that Karr doesn't teach, "the mobile station participates in wireless P2P (peer-to-peer) communications using the PMP uplink band for both transmitting and receiving in a TDD (time division duplex) manner." it is noted that Karr supports the assertion as, the segments in the broadcast stream are distributed across the frame, for fading protection, **via time diversity.** (Please perceive Pg.6; 0066, Pg.7; 0071, Pg.1; 0005).

Hence, it is believed that *Karr still teaches the claimed limitations.*

Moreover, in comeback to Applicant's disagreement that Karr doesn't teach, "Determine when a pair of mobile stations which are communicating with each other are sufficiently close together for P2P communications; direct the pair of mobile stations to start communicating with each other using P2P communications." it is noted that Karr supports the assertion as, two different implementations of the localcaster may be realized. In one, the localcast transmitter provides a local, one-way, **data broadcast to one or more nearby mobile devices.** This broadcast can either replicate one or two on-air channels; provide one or two local-content channels, or a combination of the two. When operating in these modes, the data format and speed is identical to that on the on-air channels. **The speed may be configured to be higher in a special application mode, depending on the desired range.** (Please perceive Pg.5; 0052, Pg.7; 0073-0074). Hence, it is believed that *Karr still teaches the claimed limitations.*

For that reason, it is believed and as enlighten above, the rejections should be sustained.



***Conclusion***

**VIII. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**IX.** Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sharad Rampuria whose telephone number is (571) 272-7870. The examiner can normally be reached on M-F. (8:30-5).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on (571) 272-7495. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://portal.uspto.gov/external/portal/pair>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or [EBC@uspto.gov](mailto:EBC@uspto.gov).



CHARLES APPIAH  
PRIMARY EXAMINER

Sharad Rampuria  
Examiner  
Art Unit 2617